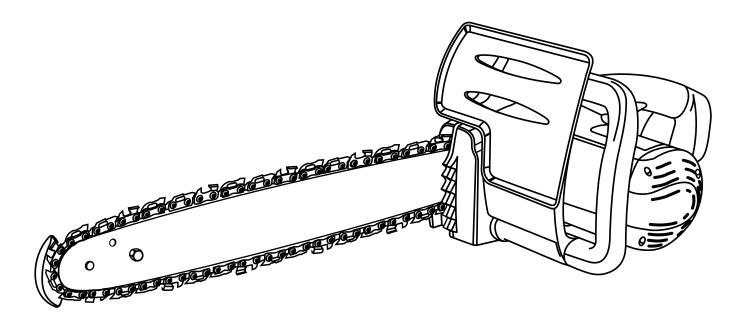


OPERATOR'S MANUAL 18 in. ELECTRIC CHAIN SAW DOUBLE INSULATED

RY43006



Your chain saw has been engineered and manufactured to Ryobi's high standard for dependability, ease of operation, and operator safety. When properly cared for, it will give you years of rugged, trouble-free performance.

WARNING: To reduce the risk of injury, the user must read and understand the operator's manual before using this product.

Thank you for buying a Ryobi product.

SAVE THIS MANUAL FOR FUTURE REFERENCE

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INTRODUCTION

This tool has many features for making its use more pleasant and enjoyable. Safety, performance, and dependability have been given top priority in the design of this product making it easy to maintain and operate.

A WARNING:

Do not attempt to operate this unit until you have read thoroughly and understand completely all instructions, safety information, etc. contained in this manual. Failure to comply can result in accidents involving fire, electric shock, or serious personal injury.

READ ALL INSTRUCTIONS

BASIC SAFETY PRECAUTIONS

- Do not start cutting until you have a clear work area, secure footing, and a planned retreat path from the falling tree. Cluttered areas invite accidents.
- Keep ALL children, bystanders, visitors, and animals out of the work area while starting or cutting with the chain saw.
- Do not operate power tools in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust. Power tools create sparks which may ignite the dust or fumes.
- When operating a power tool outside, use an outdoor extension cord marked "W-A" or "W". These cords are rated for outdoor use and reduce the risk of electric shock.
- Polarized Plugs. To reduce the risk of electric shock, this tool has a polarized plug (one blade is wider than the other). This plug will fit in a polarized outlet only one way. If the plug does not fit fully in the outlet, reverse the plug. If it still does not fit, contact a qualified electrician to install the proper outlet. Do not change the plug in any way.
- Make sure your extension cord is in good condition. When using an extension cord, be sure to use one heavy enough to carry the current your product will draw. A wire gauge size (A.W.G.) of at least 12 is recommended for an extension cord 50 feet or less in length. A cord exceeding 100 feet is not recommended. If in doubt, use the next heavier gauge. The smaller the gauge number, the heavier the cord. An undersized cord will cause a drop in line voltage resulting in loss of power and overheating.
- Inspect extension cords periodically and, if damaged, have repaired by a licensed electrician. Constantly stay aware of cord location. Following this rule will reduce the risk of electric shock or fire.
- Wear snug fitting clothing. Always wear heavy, long pants, overalls, jeans or chaps made of cut resistant material or ones that contain cut resistant inserts. Wear non-slip safety footwear. Wear non-slip heavy duty gloves to improve your grip and to protect your hands. Do not wear jewelry,

short pants, sandals, or go barefoot. Do not wear loose fitting clothing, which could be drawn into the motor or catch the chain or underbrush. Secure hair so it is above shoulder level.

- Wear eye protection which is marked to comply with ANSI Z87.1 as well as hearing and head protection when operating this equipment.
- Always be aware of what you are doing when using the chain saw. Use common sense. Do not operate the chain saw when you are tired, ill, or under the influence of alcohol, drugs, or medication.
- Do not expose the chain saw to rain.
- Do not use the chain saw in damp or wet locations.
- Always be aware of extension cord while operating chain saw. Take precautions to avoid tripping over cord. Keep cord away from chain and operator at all times. Never carry saw by the cord or pull it to disconnect from receptacle. Keep cord from oil and sharp edges.
- Stay alert and pay attention to what you are doing. Use common sense when using this unit.
- Keep all parts of your body away from the saw chain when the unit is running.
- Always carry the chain saw by the front handle with the unit unplugged and the guide bar and saw chain positioned to the rear. When transporting your chain saw, use the appropriate guide bar scabbard.
- Never let anyone use your chain saw who has not received adequate instructions in its proper use. This applies to rentals as well as privately owned saws.
- Before you start the unit, make sure the saw chain is not contacting any object.
- Stop the chain saw before setting it down.
- To avoid accidental starting, never carry the unit with your finger on the switch trigger.
- Maintain the unit with care. Keep the cutting edge sharp and clean for best performance and to reduce the risk of injury. Follow instructions for lubricating and changing accessories.
- Keep handles dry, clean, and free of oil and grease.
- Do not operate a chain saw with one hand! Use a firm grip with thumbs and fingers encircling the chain saw handles. Serious injury to the operator, helpers, bystanders, or any combination of these persons may result from one-handed operation. A chain saw is intended for two-handed use.

- Avoid body contact with grounded surfaces such as metal pipes and wire fences. There is an increased risk of electric shock if your body is grounded.
- Do not operate a chain saw that is damaged, improperly adjusted, or not completely and securely assembled. Chain should slow to a stop when the switch trigger is released. If the chain continues to turn after the switch trigger has been released, have the unit serviced by your nearest Ryobi service dealer.
- Check for damaged parts. Check for alignment of moving parts, binding of moving parts, breakage of parts, mounting, and any other conditions that may affect its operation. A guard or other part that is damaged should be properly repaired or replaced by an authorized service dealer unless otherwise indicated elsewhere in this manual.
- All chain saw service, other than the items listed in the operation and maintenance sections, should be performed by your nearest Ryobi service dealer.
- Always maintain a proper stance.
- Do not use chain saw if switch does not turn it on and off. Have defective switches replaced by authorized service center.
- Do not adapt your powerhead to a bow guide or use it to power any attachments or devices not listed for the saw.
- Disconnect chain saw when not in use, before servicing, and when making adjustments and changing attachments, such as saw chain and guard.

- Do not cut vines and/or small underbrush.
- Do not operate a chain saw in a tree, on a ladder, or scaffold; this is extremely dangerous.

NOTE: The size of the work area depends on the job being performed as well as the size tree or work piece involved. For example, felling a tree requires a larger work area than making bucking cuts.

- Use extreme caution when cutting small size brush and saplings, because small material may catch the saw chain and be whipped toward you or pull you off balance.
- When cutting a limb that is under tension, be alert for spring back so that you will not be struck when the tension in the wood fibers is released.
- Do not force the chain saw. The job can be performed better and safer at the rate for which it was intended.
- Always use the right product for your application. The chain saw should be used for cutting wood only. Never use the chain saw to cut plastic, masonry or non-wood building materials.
- Do not use the chain saw for purposes not intended.
- Store chain saw when not in use. Chain saw should be stored in a dry and high or locked area out of the reach of children. When storing chain saw place the scabbard on the bar and chain and store the chain saw in carrying case.
- Save these instructions. Refer to them frequently and use them to instruct others who may use this tool. If you loan someone this tool, loan them these instructions also.

A WARNING:

Some dust created by power sanding, sawing, grinding, drilling, and other construction activities contains chemicals known to cause cancer, birth defects or other reproductive harm. Some examples of these chemicals are:

- lead from lead-based paints,
- crystalline silica from bricks and cement and other masonry products, and
- arsenic and chromium from chemically-treated lumber.

Your risk from these exposures varies, depending on how often you do this type of work. To reduce your exposure to these chemicals: work in a well ventilated area, and work with approved safety equipment, such as those dust masks that are specially designed to filter out microscopic particles.

KICKBACK

See Figures 1 - 2.

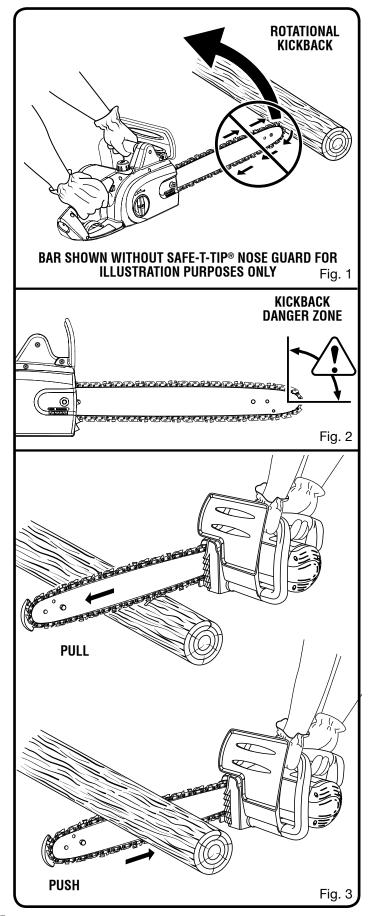
WARNING:

Kickback may occur when the moving chain contacts an object at the upper portion of the tip of the guide bar or when the wood closes in and pinches the saw chain in the cut. Contact at the upper portion of the tip of the guide bar can cause the chain to dig into the object and stop the chain for an instant. The result is a lightning fast, reverse reaction which kicks the guide bar up and back toward the operator. If the saw chain is pinched along the top of the guide bar, the guide bar can be driven rapidly back toward the operator. Either of these reactions can cause loss of saw control which can result in serious injury. Do not rely exclusively upon the safety devices built into the saw. As a chain saw user, you should take several steps to keep your cutting jobs free from accident or injury.

- The following precautions should be followed to minimize kickback:
 - Always grip the saw firmly with both hands. Hold the saw firmly with both hands when the unit is running. Place your right hand on the rear handle and your left hand on the front handle with your thumbs and fingers encircling the chain saw handles. A firm grip together with a stiff left arm will help you maintain control of the saw if kickback occurs.
 - 2. Make sure that the area in which you are cutting is free from obstructions. Do not let the nose of the guide bar contact a log, branch, fence, or any other obstruction that could be hit while you are operating the saw.
 - 3. Always cut with the unit running. Fully squeeze the switch trigger and maintain cutting speed.
 - 4. Use replacement parts such as low kickback chain (part no. 301304001), SAFE-T-TIP[®] anti-kickback nose guards and special guide bars that reduce the risks associated with rotational kickback.

Use only the replacement guide bars (part no. 301139003) and low kickback chains specified by the manufacturer for the saw.

- With a basic understanding of kickback, you can reduce or eliminate the element of surprise. Sudden surprise contributes to accidents.
- Keep proper footing and balance at all times.
- Do not cut above shoulder height or overreach when cutting.
- Keep the SAFE-T-TIP[®] anti-kickback nose guard properly mounted on the guide bar to prevent rotational kickback.
- Follow the sharpening and maintenance instructions for the saw chain.
- Push and Pull This reaction force is always opposite to the direction the chain is moving where wood contact is made. Thus, the operator must be ready to control the PULL when cutting on the bottom edge of the bar, and PUSH when cutting along the top edge. See Figure 3.



UNDERSTANDING YOUR CHAIN SAW SAFETY DEVICES

See Figure 4.

SAFE-T-TIP® ANTI-KICKBACK NOSE GUARD

The SAFE-T-TIP[®] prevents rotational kickback from happening, because it covers the tip of the bar where kickback is generated. Never attempt any kind of cutting where the SAFE-T-TIP[®] would have to be removed from the bar tip.

LOW KICKBACK SAW CHAIN

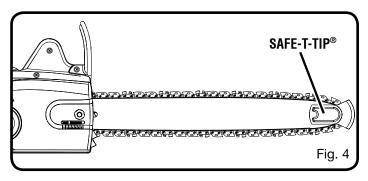
The rakers (depth gauges) ahead of each cutter can minimize the force of a kickback reaction by preventing the cutters from digging in too deeply at the kickback zone. Only use replacement chain that is equivalent to original chain or has been certified as low kickback chain per ANSI B175.1.

Low kickback/skip tooth saw chain is a chain that has met the kickback performance requirements of ANSI B175.1 - 1991 (American National Standard for Power Tools - Gasoline-Powered Chain Saws-Safety Requirements) when tested on the representative sample of chain saws below 3.8 c.i.d. specified in ANSI B175.1 - 1991. As saw chains are sharpened during their useful life, they lose some of the low kickback qualities and extra caution should be used.

GUIDE BARS

Generally, guide bars with small radius tips have somewhat lower kickback potentials.

When making a replacement, be sure to order one of the Ryobi bars listed for the saw in this operator's manual. The proper size SAFE-T-TIP[®] nose guard comes installed on the bar. Use only guide bars that have a provision for mounting the SAFE-T-TIP[®].



SYMBOLS

Important: Some of the following symbols may be used on your tool. Please study them and learn their meaning. Proper interpretation of these symbols will allow you to operate the tool better and safer.

SYMBOL	NAME	EXPLANATION
V	Volts	Voltage
А	Amperes	Current
Hz	Hertz	Frequency (cycles per second)
W	Watt	Power
min	Minutes	Time
\sim	Alternating Current	Type or a characteristic of current
	Direct Current	Type or a characteristic of current
n _o	No Load Speed	Rotational speed, at no load
	Class II Construction	Designates Double Insulated Construction tools
/min	Revolutions or Reciprocation Per Minute	Revolutions, strokes, surface speed, orbits etc. per minute
	Safety Alert Symbol	Indicates danger, warning or caution. It means attention!!! Your safety is involved.
	Wet Conditions Alert	Do not expose to rain or use in damp locations.
	Read Your Operator's Manual	Your manual contains special messages to bring attention to potential safety concerns, machine damage as well as helpful operating and servicing information. Please read all the information care- fully to avoid injury and machine damage.
	Wear Eye, Hearing, and Head Protection	Wear eye protection which is marked to comply with ANSI Z87.1 as well as hearing and head pro- tection when operating this equipment.
	Wear Safety Footwear	Wear non-slip safety footwear when using this equipment.
	Wear Gloves	Wear non-slip, heavy-duty protective gloves when handling the chain saw.
	Keep Children and Pets Away	Danger- Keep children and pets away.
	Beware of Kickback	DANGER! Beware of kickback.

SYMBOLS

The following signal words and meanings are intended to explain the levels of risk associated with this product.		
SYMBOL	SIGNAL	MEANING
	DANGER:	Indicates an imminently hazardous situation, which, if not avoided, will result in death or serious injury.
	WARNING:	Indicates a potentially hazardous situation, which, if not avoided, could result in death or serious injury.
	CAUTION:	Indicates a potentially hazardous situation, which, if not avoided, may result in minor or moderate injury.
	CAUTION:	(Without Safety Alert Symbol) Indicates a situation that may result in property damage.

SERVICE

Servicing requires extreme care and knowledge and should be performed only by a qualified service technician. For service we suggest you return the product to your nearest **AUTHORIZED SERVICE CENTER** for repair. When servicing, use only identical replacement parts.

WARNING:

To avoid serious personal injury, do not attempt to use this product until you read thoroughly and understand completely the operator's manual. Save this operator's manual and review frequently for continuing safe operation and instructing others who may use this product.

WARNING:



The operation of any power tool can result in foreign objects being thrown into your eyes, which can result in severe eye damage. Before beginning power tool operation, always wear safety goggles, safety glasses with side shields, or a full face shield when needed. We recommend Wide Vision Safety Mask for use over eyeglasses or standard safety glasses with side shields. Always use eye protection which is marked to comply with ANSI Z87.1.

SAVE THESE INSTRUCTIONS

ELECTRICAL

DOUBLE INSULATION

Double insulation is a concept in safety in electric power tools, which eliminates the need for the usual threewire grounded power cord. All exposed metal parts are isolated from the internal metal motor components with protecting insulation. Double insulated tools do not need to be grounded.

A WARNING:

The double insulated system is intended to protect the user from shock resulting from a break in the tool's internal insulation. Observe all normal safety precautions to avoid electrical shock.

NOTE: Servicing of a tool with double insulation requires extreme care and knowledge of the system and should be performed only by a qualified service technician. For service, we suggest you return the tool to your nearest authorized service center for repair. Always use original factory replacement parts when servicing.

ELECTRICAL CONNECTION

This tool has a precision-built electric motor. It should be connected to a **power supply that is 120 volts, 60 Hz, AC only (normal household current).** Do not operate this tool on direct current (DC).

A substantial voltage drop will cause a loss of power and the motor will overheat. If your tool does not operate when plugged into an outlet, double-check the power supply.

EXTENSION CORDS

When using a power tool at a considerable distance from a power source, be sure to use an extension cord that has the capacity to handle the current the tool will draw. An undersized cord will cause a drop in line voltage, resulting in overheating and loss of power. Use the chart to determine the minimum wire size required in an extension cord. Only round jacketed cords listed by Underwriter's Laboratories (UL) should be used.

When working outdoors with a tool, use an extension cord that is designed for outside use. This type of cord is designated with "WA" on the cord's jacket.

Before using any extension cord, inspect it for loose or exposed wires and cut or worn insulation.

**Ampere	rating (on to	ol data plate)			
	0-2.0	2.1-3.4	3.5-5.0	5.1-7.0	7.1-12.0	12.1-16.0
Cord L	.ength	Wire Size (A.W.G.)				
25'	16	16	16	16	14	14
50'	16	16	16	14	14	12
100'	16	16	14	12	10	_
date 1						

Used on 12 gauge - 20 amp circuit. **NOTE: AWG = American Wire Gauge

WARNING:

Keep the extension cord clear of the working area. Position the cord so that it will not get caught on lumber, tools or other obstructions while you are working with a power tool. Failure to do so can result in serious personal injury.

WARNING:

Check extension cords before each use. If damaged replace immediately. Never use tool with a damaged cord since touching the damaged area could cause electrical shock resulting in serious injury.

GLOSSARY OF TERMS

Bar Tip Guard

An attachment that may be provided on the end of the guide bar to prevent the chain at the end of the guide bar from contacting the wood.

Bucking

The process of cross cutting a felled tree or log into lengths.

Chain Brake

A device used to stop the chain saw.

Chain Saw Powerhead

A chain saw without the saw chain and guide bar.

Clutch

A mechanism for connecting and disconnecting a driven member to and from a rotating source of power.

Drive Sprocket or Sprocket

The toothed part that drives the saw chain.

Felling

The process of cutting down a tree.

Felling Back Cut

The final cut in a tree felling operation made on the opposite side of the tree from the notching undercut.

Front Handle

The support handle located at or toward the front of the chain saw.

Front Handle Guard

A structural barrier between the front handle of a chain saw and the guide bar, typically located close to the hand position on the front handle and sometimes employed as an activating lever for a chain brake.

Guide Bar

A solid railed structure that supports and guides the saw chain.

Kickback

The backward or upward motion, or both of the guide bar occurring when the saw chain near the nose of the top area of the guide bar contacts any object such as a log or branch, or when the wood closes in and pinches the saw chain in the cut.

Kickback, Pinch

The rapid pushback of the saw which can occur when the wood closes in and pinches the moving saw chain in the cut along the top of the guide bar.

Kickback, Rotational

The rapid upward and backward motion of the saw which can occur when the moving saw chain near the upper portion of the tip of the guide bar contacts an object, such as a log or branch.

Low-Kickback Chain

A chain that complies with the kickback performance requirements of ANSI B175.1-1991 when tested on a representative sample of chain saws.

Normal Cutting Position

Those positions assumed in performing the bucking and felling cuts.

Notching Undercut

A notch cut in a tree that directs the tree's fall.

Oiler Control

A system for oiling the guide bar and saw chain.

Rear Handle

The support handle located at or toward the rear of the saw.

Reduced Kickback Guide Bar

A guide bar which has been demonstrated to reduce kickback significantly.

Replacement Saw Chain

A chain that complies with the kickback performance requirements of ANSI B175.1-1991 when tested with specific chain saws. It may not meet the ANSI performance requirements when used with other saws.

Saw Chain

A loop of chain having cutting teeth, that cut the wood, and that is driven by the motor and is supported by the guide bar.

Spiked Bumper (Spike)

The pointed tooth or teeth for use when felling or bucking to pivot the saw and maintain position while sawing.

Switch

A device that when operated will complete or interrupt an electrical power circuit to the motor of the chain saw.

Switch Linkage

The mechanism that transmits motion from a trigger to the switch.

Switch Lockout

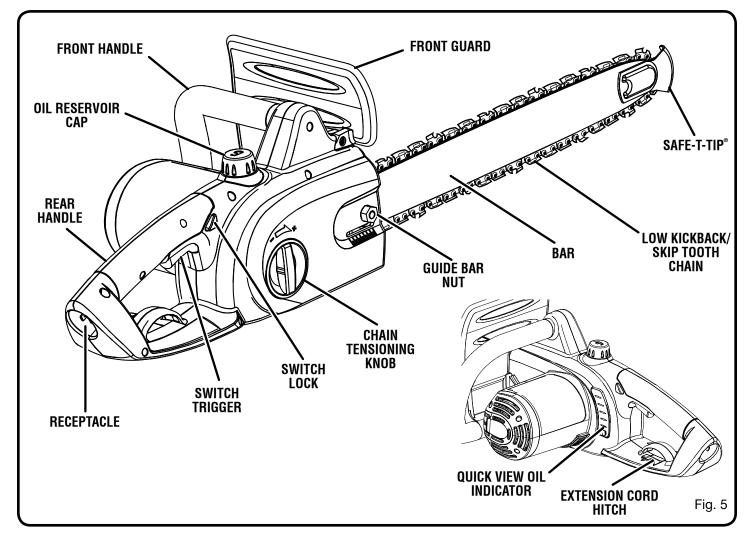
A movable stop that prevents the unintentional operation of the switch until manually actuated.

FEATURES

PRODUCT SPECIFICATIONS

Bar Length	18 in.
Chain Type	Skip Tooth/Low Kickback
Motor	3.5 hp.
Bar and Chain Oil Capacity	7.1 oz.

No Load Speed (Spro	cket)	6200/min.
Input	120 V, 60 Hz, A	C only, 13.0 Amps
Net Weight		10.7 lbs.



KNOW YOUR CHAIN SAW

See Figure 5.

Before attempting to use this product, familiarize yourself with all operating features and safety rules.

SAFE-T-TIP®

An attachment provided on the end of the guide bar to prevent the chain, on the end of the guide bar, from contacting the wood.

REAR HANDLE

The support handle located at or toward the rear of the chain saw.

FRONT HANDLE

The support handle located at or toward the front of the chain saw.

SWITCH LOCK

A control feature designed to prevent the motor from being accidently started.

SWITCH TRIGGER

Squeeze the switch trigger to operate the unit after switch lock has been pushed in. Release the switch trigger to stop the unit.

CHAIN TENSIONING KNOB

This feature allows user to adjust the tension of the chain.

QUICK VIEW OIL INDICATOR

Semi-transparent oil reservoir that allows user to see when to add oil.

ASSEMBLY

UNPACKING

This product has been shipped completely assembled.

- Carefully remove the tool and any accessories from the box. Make sure that all items listed in the packing list are included.
- Inspect the tool carefully to make sure no breakage or damage occurred during shipping.
- Do not discard the packing material until you have carefully inspected and satisfactorily operated the tool.
- If any parts are damaged or missing, please call 1-800-860-4050 for assistance.

PACKING LIST

Chain Saw with Scabbard Scrench (combination wrench) Case Operator's Manual Warranty Registration Card

WARNING:

If any parts are missing do not operate this tool until the missing parts are replaced. Failure to do so could result in possible serious personal injury.

WARNING:

Do not attempt to modify this tool or create accessories not recommended for use with this tool. Any such alteration or modification is misuse and could result in a hazardous condition leading to possible serious personal injury.

WARNING:

Do not connect to power supply until assembly is complete. Failure to comply could result in accidental starting and possible serious personal injury.

OPERATION

A WARNING:

Do not allow familiarity with tools to make you careless. Remember that a careless fraction of a second is sufficient to inflict serious injury.

A WARNING:

Always wear safety goggles or safety glasses with side shields when operating power tools. Failure to do so could result in objects being thrown into your eyes resulting in possible serious injury.

WARNING:

Do not use any attachments or accessories not recommended by the manufacturer of this tool. The use of attachments or accessories not recommended can result in serious personal injury.

APPLICATIONS

You may use this tool for the purposes listed below:

- Limbing and pruning branches from trees.
- Felling trees up to 14 in. diameter.
- Bucking the fallen tree into shorter lengths.

AUTOMATIC CHAIN OIL SYSTEM

See Figure 6.

NOTE: Chain saw comes from the factory with no bar and chain oil added.

- Use Power Care Bar and Chain Oil. It is formulated to perform over a wide temperature range with no dilution required.
- Remove oil cap.
- Carefully pour the bar and chain oil into the tank.
- Wipe off excess oil.
- Check and fill the oil tank when quick view oil indicator is below the second to last indicator line.
- Repeat as needed.

NOTE: Do not use dirty, used or otherwise contaminated oils. Damage may occur to the bar or chain.

NOTE: It is normal for oil to seep from the saw when not in use. To prevent seepage, empty the oil tank after each use then run for one minute. When storing the unit for a long period of time (three months or longer) be sure the chain is lightly lubricated; this will prevent rust on the chain and bar sprocket.

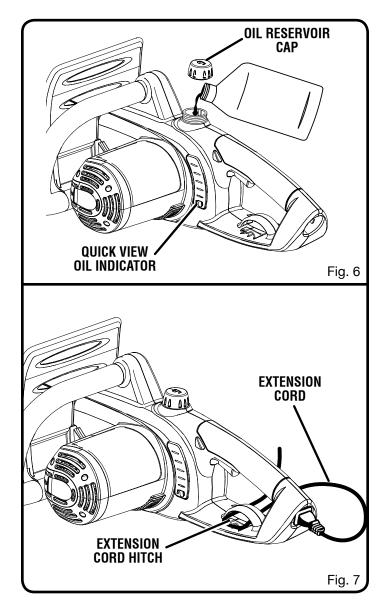
CONNECTING TO POWER SUPPLY

See Figure 7.

This chain saw is designed with an extension cord hitch that prevents the extension cord from being pulled loose while using.

- Form a loop with the end of the extension cord.
- Insert loop portion of extension cord through the opening in the side of the rear handle and place over cord hitch.
- Slowly pull loop against cord hitch until the slack is removed.
- Plug extension cord into rear handle of chain saw.

NOTE: Failure to remove all excess cord slack from extension cord hitch could result in plug loosening from receptacle.



STARTING AND STOPPING THE CHAIN SAW

See Figure 8.

A WARNING:

Keep body to the left of the chain line. Never straddle the saw or chain, or lean over past the chain line.

STARTING THE CHAIN SAW

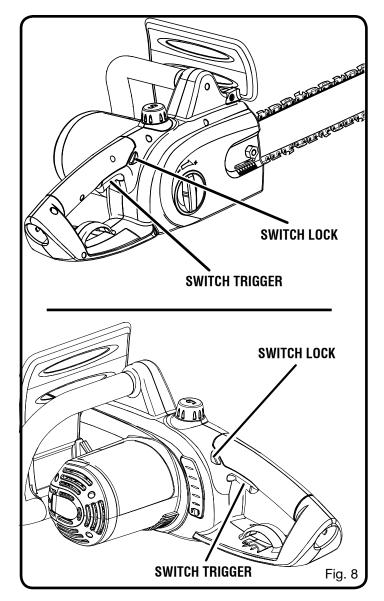
- Make sure no objects or obstructions are in immediate vicinity which could come in contact with the bar and chain.
- Press and hold the switch lock. This makes the switch trigger operational.
- Press and hold the switch trigger, release the switch lock and continue to squeeze the switch trigger for continued operation.

STOPPING THE CHAIN SAW

NOTE: It is normal for the chain to coast to a stop once the trigger switch is released.

- Release the switch trigger to stop the chain saw.
- Upon release of the switch trigger, the switch lock will be automatically reset to the lock position.

Do not attempt to make any cut that would require removal of the SAFE-T-TIP $^{\circledast}\!\!\!$.



PREPARATION FOR CUTTING

PROPER GRIP ON HANDLES

See Figures 9 - 11.

Refer to "General Safety Rules" earlier in this manual for appropriate safety equipment.

- Wear non-slip gloves for maximum grip and protection.
- Hold the saw firmly with both hands. Always keep your left hand on the front handle and your right hand on the rear handle so that your body is to the left of the chain line.

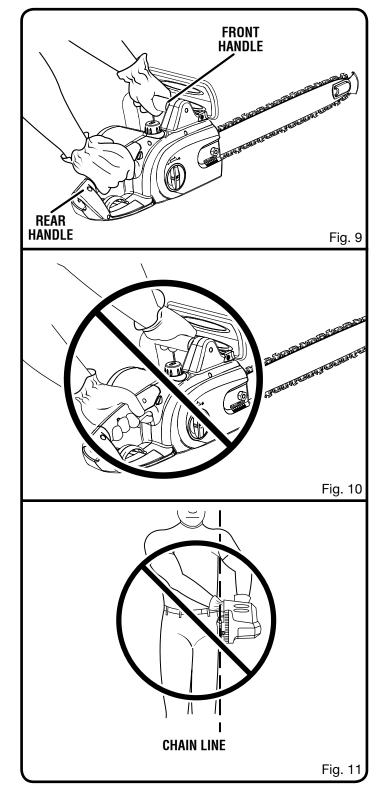
A WARNING:

Never use a left-handed (cross-handed) grip, or any stance which would place your body or arm across the chain line.

Maintain a proper grip on the saw whenever the unit is running. The fingers should encircle the handle and the thumb is wrapped under the handlebar. This grip is least likely to be broken (by a kickback or other sudden reaction of the saw). Any grip in which the thumb and fingers are on the same side of the handle, is dangerous because a slight kick of the saw can cause loss of control.

A WARNING:

Do not operate the switch trigger with your left hand and hold the front handle with your right hand. Never allow any part of your body to be in the chain line while operating a saw.



PROPER CUTTING STANCE

See Figure 12.

- Weight should be balanced with both feet on solid ground.
- Keep left arm with elbow locked in a "straight arm" position to withstand any kickback force.
- Your body should always be to the left of the chain line.
- Thumb should be on underside of handlebar.

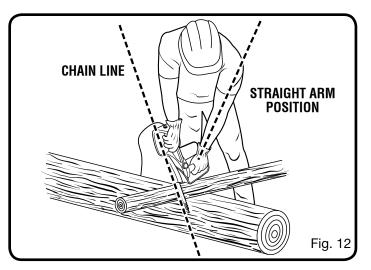
BASIC CUTTING PROCEDURE

Practice cutting a few small logs using the following technique to get the "feel" of using the saw before you begin a major sawing operation.

- Take the proper stance in front of the wood with the saw off.
- Press the switch lock and squeeze the switch trigger then release switch lock and let the chain accelerate to full speed before entering the cut.
- Begin cutting with the saw against the log.
- Keep the unit running the entire time you are cutting, maintain a steady speed.
- Allow the chain to cut for you; exert only light downward pressure. If you force the cut, damage to the bar, chain, or unit can result.
- Release the switch trigger as soon as the cut is completed, allowing the chain to stop. If you run the saw without a cutting load, unnecessary wear can occur to the chain, bar, and unit.
- Do not put pressure on the saw at the end of the cut.

WORK AREA PRECAUTIONS

- Cut only wood or materials made from wood, no sheet metal, no plastics, no masonry, no non-wood building materials.
- Never allow children to operate the saw. Allow no person to use this chain saw who has not read this Operator's Manual or received adequate instructions for the safe and proper use of this chain saw.
- When felling a tree, keep everyone helpers, bystanders, children, and animals a safe distance from the cutting area. During felling operations, the safe distance should be a least twice the height of the largest trees in the felling area. During bucking operations, keep a minimum distance of 15 feet between workers. Trees should not be felled in a manner that would endanger any person, strike any utility line or cause any property damage. If the tree does make contact with any utility line, the utility company should be notified immediately.



- Always cut with both feet on solid ground to prevent being pulled off balance.
- Do not cut above chest height, as a saw held higher is difficult to control against kickback forces.
- Do not fell trees near electrical wires or buildings. Leave this operation for professionals.
- Cut only when visibility and light are adequate for you to see clearly.

TREE FELLING

Unusual Hazardous Tree Felling Conditions

Do not fell trees during periods of high wind or heavy precipitation.

Do not cut down trees having an extreme lean or large trees that have rotten limbs, loose bark, or hollow trunks. Have these trees pushed or dragged down with heavy equipment, then cut them up.

A WARNING:

Do not cut trees near electrical wires or buildings.

A WARNING:

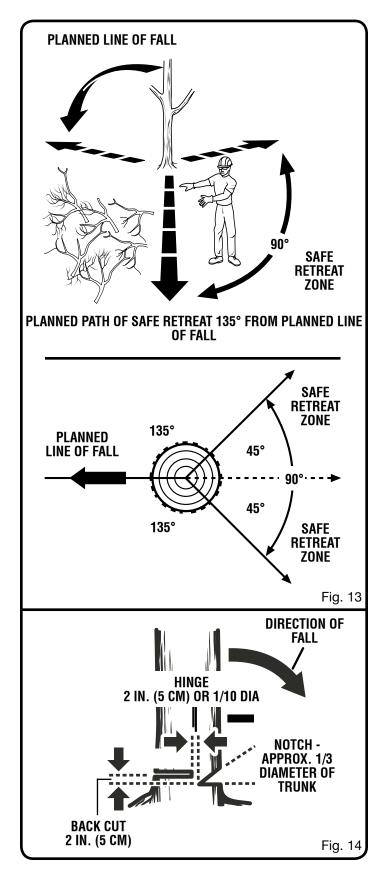
Check the tree for damaged or dead branches that could fall and hit you during felling.

Periodically glance at the top of the tree during the backcut to assure the tree is going to fall in the desired direction.

WARNING:

If the tree starts to fall in the wrong direction, or if the saw gets caught or hung up during the fall, leave the saw and save yourself!

- Felling a tree When bucking and felling operations are being performed by two or more persons, at the same time, the felling operation should be separated from the bucking operation by a distance of at least twice the height of the tree being felled. Trees should not be felled in a manner that would endanger any person, strike any utility line or cause any property damage. If the tree does make contact with any utility line, the utility company should be notified immediately.
- Before any cuts are started, pick your escape route (or routes in case the intended route is blocked); clear the immediate area around the tree and make sure there are no obstructions in your planned path of retreat. Clear path of safe retreat approximately 135° from planned line of fall. The retreat path should extend back and diagonally to the rear of the expected line of fall. See Figure 13.
- Before felling is started, consider the force and direction of the wind, the lean and balance of the tree, and the location of large limbs. These things influence the direction in which the tree will fall. Do not try to fell a tree along a line different from its natural line of fall.
- The chain saw operator should keep on the uphill side of the terrain as the tree is likely to roll or slide downhill after it is felled.
- Remove dirt, stones, loose bark, nails, staples, and wire from the tree where felling cuts are to be made.
- Notched Undercut. Cut a notch about 1/3 the diameter of the tree, perpendicular to the direction of fall. Make the cuts of the notch so they intersect at a right angle to the line of fall. This notch should be cleaned out to leave a straight line. To keep the weight of the wood off the saw, always make the lower cut of the notch before the upper cut. See Figure 14.



- Felling Backcut. The backcut is always made level and horizontal, and at a minimum of 2 in. above the horizontal cut of the notch. See Figures 14 - 15.
- Never cut through to the notch. Always leave a band of wood between the notch and backcut (approximately 2 in. or 1/10 the diameter of the tree). This is called "hinge" or "hingewood." It controls the fall of the tree and prevents slipping or twisting or shoot-back of the tree off the stump. See Figures 14 - 15.
- On large diameter trees, stop the back cut before it is deep enough for the tree to either fall or settle back on the stump. Then insert soft wooden or plastic wedges into the cut so they do not touch the chain. The wedges can be driven in, little by little, to help jack the tree over. See Figure 16.

NOTE: When bucking or felling with a wedge, it may be necessary to remove the SAFE-T-TIP[®] anti-kickback device to allow the bar to be drawn through the cut. After the cut is complete, the tip should be reinstalled immediately.

As tree starts to fall, stop the chain saw by releasing the switch trigger and put it down immediately. Retreat along the cleared path, but watch the action in case something falls your way. Be alert for overhead limbs or branches that may fall and watch your footing.

WARNING:

Never cut through to the notch when making a backcut. The hinge controls the fall of the tree, this is the section of wood between the notch and backcut.

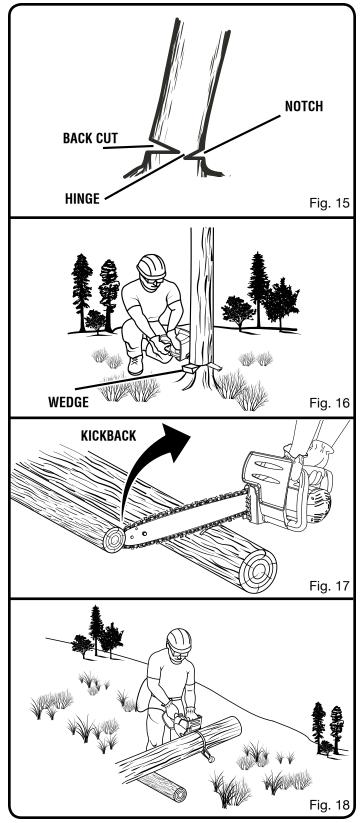
BUCKING

See Figures 17 - 20.

Bucking is the term used for cutting a fallen tree to the desired log length.

- Always make sure your footing is secure and your weight is distributed evenly on both feet.
- Cut only one log at a time.
- Support small logs on a saw horse or another log while bucking.
- Keep a clear cutting area. Make sure that no objects can contact the guide bar nose and chain during cutting, this can cause kickback. To avoid the danger, keep the SAFE-T-TIP[®] anti-kickback device attached while cutting. Refer to "Kickback" earlier in this manual.
- When bucking on a slope, always stand on the uphill side of the log. To maintain complete control of the chain saw when cutting through the log, release the cutting pressure near the end of the cut without relaxing your grip on the chain saw handles. Do not let the chain contact the ground. After completing the cut, wait for the saw chain to stop before you move the chain saw. Always stop the motor before moving from tree to tree.

Sometimes it is impossible to avoid pinching (with just standard cutting techniques) or difficult to predict which way a log will settle when cut. To avoid pinching while cutting, rotate or move the log so that the pinch is eliminated.



BUCKING LOGS UNDER STRESS

See Figures 19 - 20.

When the log is supported along its entire length, it should be cut from the top or overbucking.

When the log is supported on one end, cut 1/3 the diameter from the underside or underbucking. Then make the finishing cut by overbucking to meet the first cut.

As the log is being cut, it will tend to bend. The saw can become pinched or hung in the log if you make the first cut deeper than 1/3 of the diameter of the log.

Give special attention to logs under stress to prevent the bar and chain from pinching.

When bucking on a slope, always stand on the uphill side of the log as shown in Figure 18. When "cutting through," to maintain complete control of the chain saw, release the cutting pressure near the end of the cut without relaxing your grip on the chain saw handles. Do not let the chain contact the ground. After completing the cut, wait for the saw chain to stop before you move the chain saw. Always stop the motor before moving from tree to tree. *See Figure 18.*

TYPES OF CUTTING USED

See Figure 20.

OVERBUCKING

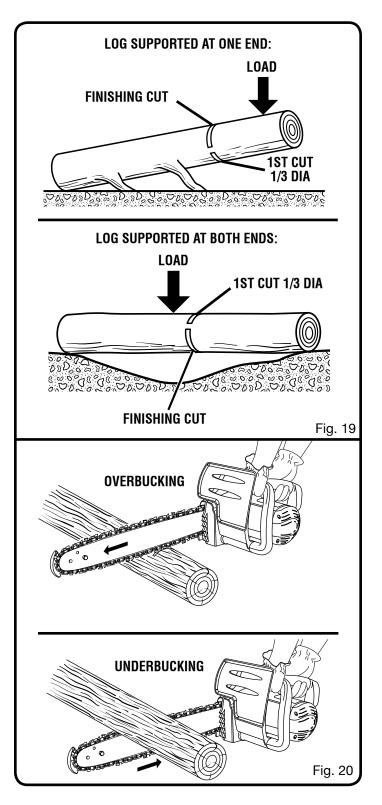
Begin on the top side of the log with the bottom of the saw against the log; exert light pressure downward. Note that the saw will tend to pull away from you.

UNDERBUCKING

Begin on the under side of the log with the top of the saw against the log; exert light pressure upward. During underbucking, the saw will tend to push back at you. Be prepared for this reaction and hold the saw firmly to maintain control.

A WARNING:

Never climb into a tree to limb or prune. Do not stand on ladders, platforms, a log, or in any position which can cause you to lose your balance or control of the saw.



LIMBING

See Figure 21.

Limbing is removing branches from a fallen tree.

- Work slowly, keeping both hands on the chain saw with a firm grip. Always make sure your footing is secure and your weight is distributed evenly on both feet.
- Leave the larger support limbs under the tree to keep the tree off the ground while cutting.
- Limbs should be cut one at a time. Remove the cut limbs from the work area often to help keep the work area clean and safe.
- Branches under tension should be cut from the bottom up to avoid binding the chain saw.
- Keep the tree between you and the chain saw while limbing. Cut from the side of the tree opposite the branch you are cutting.

PRUNING

See Figure 22.

Pruning is trimming limbs from a live tree.

- Work slowly, keeping both hands on the chain saw with a firm grip. Always make sure your footing is secure and your weight is distributed evenly on both feet.
- Do not cut from a ladder, this is extremely dangerous. Leave this operation for professionals.
- Do not cut above chest height as a saw held higher is difficult to control against kickback.
- When pruning trees it is important not to make the finishing cut next to the main limb or trunk until you have cut off the limb further out to reduce the weight. This prevents stripping the bark from the main member.
- Underbuck the branch 1/3 through for your first cut.
- Your second cut should overbuck to drop the branch off.
- Now make your finishing cut smoothly and neatly against the main member so the bark will grow back to seal the wound.

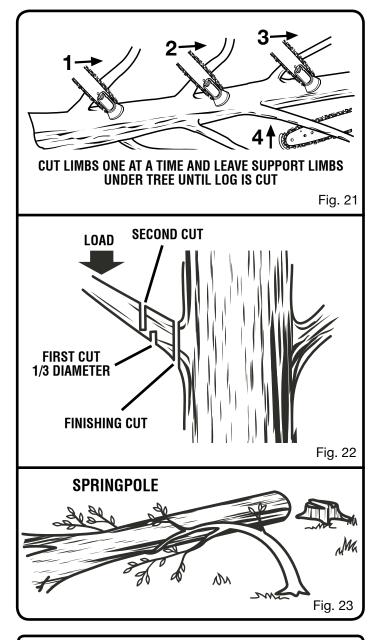
A WARNING:

If the limbs to be pruned are above chest height, hire a professional to perform the pruning.

SPRINGPOLES

See Figure 23.

A springpole is any log, branch, rooted stump, or sapling which is bent under tension by other wood so that it springs back if the wood holding it is cut or removed. On a fallen tree, a rooted stump has a high potential of springing back to the upright position during the bucking cut to separate the log from the stump. Watch out for springpoles, they are dangerous.



WARNING:

Springpoles are dangerous and could strike the operator, causing the operator to lose control of the chain saw. This could result in severe or fatal injury to the operator.

ADJUSTMENTS

WARNING:

Before performing any adjustment, make sure the tool is unplugged from the power supply. Failure to heed this warning could result in serious personal injury.

ADJUSTING CHAIN TENSION

See Figures 24 - 26.

- Unplug the chain saw and remove power cord.
- Loosen the guide bar nut to finger tight, turn the chain tensioner knob "+" will tension the chain. Refer to "Replacing Bar and Chain" later in this manual for additional information.

A cold chain is correctly tensioned when there is no slack on the underside of the guide bar, the chain is snug, but it can be turned by hand without binding.

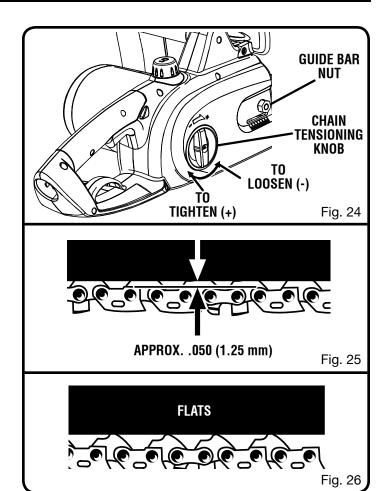
- Chain must be re-tensioned whenever the flats on the drive links hang out of the bar groove.
- During normal saw operation, the temperature of the chain will increase. The drive links of a correctly tensioned warm chain will hang approximately .050 in. out of the bar groove.

NOTE: New chain tends to stretch, check chain tension frequently and tension as required.

Retighten the guide bar nut.

CAUTION:

Chain tensioned while warm, may be too tight upon cooling. Check the "cold tension" before next use.



MAINTENANCE

WARNING:

When servicing, use only identical Ryobi replacement parts. Use of any other parts may create a hazard or cause product damage.

A WARNING:

Always wear safety goggles or safety glasses with side shields during power tool operation or when blowing dust. If operation is dusty, also wear a dust mask.

GENERAL MAINTENANCE

Avoid using solvents when cleaning plastic parts. Most plastics are susceptible to damage from various types of commercial solvents and may be damaged by their use. Use clean cloths to remove dirt, dust, oil, grease, etc.

WARNING:

Do not at any time let brake fluids, gasoline, petroleumbased products, penetrating oils, etc., come in contact with plastic parts. Chemicals can damage, weaken or destroy plastic which may result in serious personal injury.

Electric tools used on fiberglass material, wallboard, spackling compounds, or plaster are subject to accelerated wear and possible premature failure because the fiberglass chips and grindings are highly abrasive to bearings, brushes, commutators, etc. Consequently, we do not recommended using this tool for extended work on these types of materials. However, if you do work with any of these materials, it is extremely important to clean the tool using compressed air.

LUBRICATION

All of the bearings in this tool are lubricated with a sufficient amount of high grade lubricant for the life of the unit under normal operating conditions. Therefore, no further lubrication is required.

REPLACING BAR AND CHAIN

See Figures 27 - 31.

A WARNING:

Before performing any maintenance, make sure the tool is unplugged from the power supply. Failure to heed this warning could result in serious personal injury.

Always wear gloves when handling the bar and chain; these components are sharp and may contain burrs.

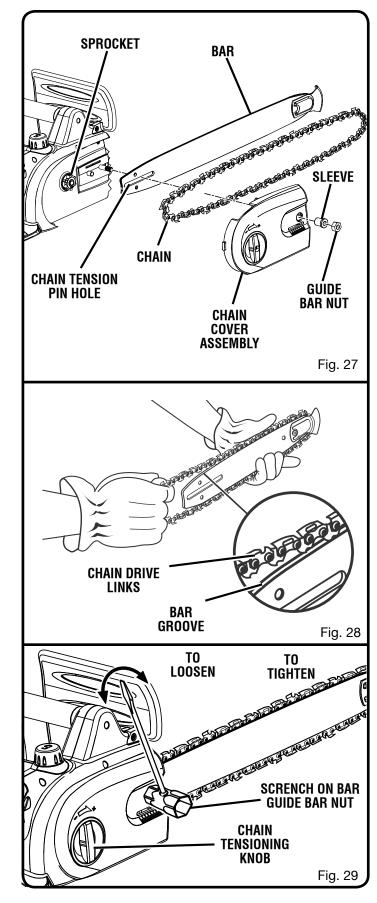
A WARNING:

Never touch or adjust the chain while the motor is running. The saw chain is very sharp; always wear protective gloves when performing maintenance to the chain to avoid possible serious lacerations.

- Unplug the chain saw and remove power cord.
- Using the scrench, loosen the guide bar nut completely and remove chain cover assembly (take care not to lose sleeve).
- Remove the bar and chain from the mounting surface.
- Remove the old chain from the bar.
- Lay out the new saw chain in a loop and straighten any kinks. The cutters should face in the direction of chain rotation. If they face the opposite direction, turn the loop over.
- Place the chain drive links into the bar groove.
 NOTE: Make certain of direction of chain.
- Position the chain so there is a loop at the back of the bar. Hold the chain in position on the bar and place the loop around the sprocket of the chain saw. Fit the bar flush against the mounting surface so that the bar stud is in the long slot of the bar.

RECOMMENDED BAR AND CHAIN COMBINATIONS

Bar Part Number - 18 in. 301304001 Chain Part Number 301139003



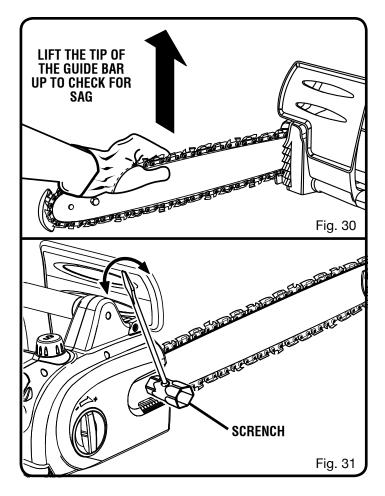
Reinstall the chain cover assembly, bushing and guide bar nut. Tighten the guide bar nut finger tight only. The bar must be free to move for tension adjustment.

NOTE: When replacing the chain cover assembly assure that the adjusting pin is in the chain tension pin hole and that the chain cover assembly fits flush to the housing.

NOTE: Chain tensioning knob has two markings: "+" tightens the tension of chain and "-" loosens the tension.

- Remove all the slack from the chain by turning the chain tensioning knob "+" until the chain seats snugly against the bar with the drive links in the bar groove.
- Lift the tip of the guide bar up to check for sag. Release the tip of the guide bar and turn the chain tensioning knob 1/2 turn "+". Repeat this process until sag does not exist.
- Hold the tip of the guide bar up and tighten the guide bar nut securely.
- Chain is correctly tensioned when there is no sag on the underside of the guide bar, the chain is snug, but it can be turned by hand without binding.

NOTE: If chain is too tight, it will not rotate. Loosen the guide bar nut slightly and turn chain tension knob 1/4 turn "-". Lift the tip of the guide bar up and retighten guide bar nut securely. Assure that the chain will rotate without binding.



CHAIN MAINTENANCE

See Figures 32 - 33.

WARNING:

Before performing any adjustment, make sure the tool is unplugged from the power supply. Failure to heed this warning could result in serious personal injury.

Use only 3/8 in. pitch skip tooth/low-kickback (62 drivelink) chain on this saw. This fast-cutting chain will provide kickback reduction when properly maintained.

For smooth and fast cutting, chain needs to be maintained properly. The chain requires sharpening when the wood chips are small and powdery, the chain must be forced through the wood during cutting, or the chain cuts to one side. During maintenance of your chain, consider the following:

- Improper filing angle of the side plate can increase the risk of a severe kickback.
- Raker (depth gauge) clearance.
- Too low increases the potential for kickback.
- Not low enough decreases cutting ability.
- If cutter teeth have hit hard objects such as nails and stones, or have been abraded by mud or sand on the wood, have service dealer sharpen chain.

NOTE: Inspect the drive sprocket for wear or damage when replacing the chain. If signs of wear or damage are present in the areas indicated, have the drive sprocket replaced by a Ryobi Service dealer.

HOW TO SHARPEN THE CUTTERS

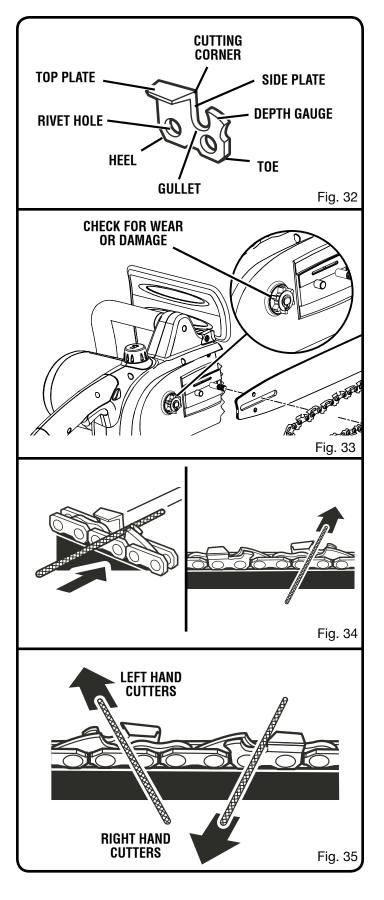
See Figures 34 - 35.

Be careful to file all cutters to the specified angles and to the same length, as fast cutting can be obtained only when all cutters are uniform.

A WARNING:

Improper chain sharpening increases the potential of kickback.

- Wear gloves for protection. Properly tension the chain prior to sharpening. Refer to "Adjusting Chain Tension" earlier in this manual. Do all of your filing at the mid-point of the bar.
- Use a 5/32 in. diameter round file and holder.
- Keep the file level with the top plate of the tooth. Do not let the file dip or rock.
- Using light but firm pressure, stroke towards the front corner of the tooth.
- Lift file away from the steel on each return stroke.
- Put a few firm strokes on every tooth. File all left hand cutters in one direction. Then move to the other side and file the right hand cutters in the opposite direction. Occasionally remove filings from the file with a wire brush.



WARNING:

Failure to replace or repair damaged chain can cause serious injury.

WARNING:

The saw chain is very sharp, always wear protective gloves when performing maintenance to the chain failure to do so may result in serious personal injury.

TOP PLATE FILING ANGLE

See Figure 36.

- CORRECT 30° File holders are marked with guide marks to align file properly to produce correct top plate angle.
- LESS THAN 30° For Cross Cutting.
- MORE THAN 30° Feathered Edge Dulls Quickly.

SIDE PLATE ANGLE

See Figure 37.

- CORRECT 80° Produced automatically if correct diameter file is used in file holder.
- HOOK "Grabs" and dulls quickly. Increases potential of KICKBACK.

Results from using a file with diameter too small, or file held too low.

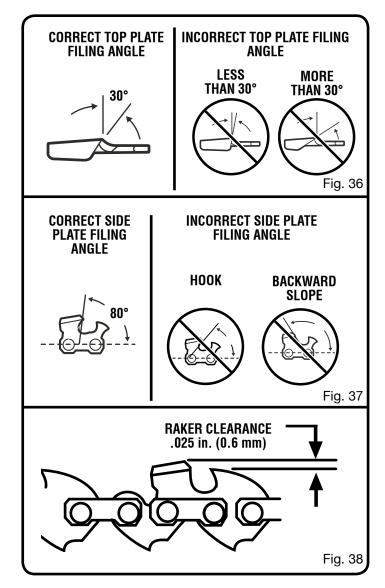
BACKWARD SLOPE - Needs too much feed pressure, causes excessive wear to bar and chain.

Results from using a file with diameter too large, or file held too high.

DEPTH GAUGE CLEARANCE

See Figure 38.

- The depth gauge should be maintained at a clearance of .025 in. Use a depth gauge tool for checking the depth gauge clearances.
- Every time the chain is filed, check the depth gauge clearance.



Use a Flat File and a Depth Gauge Jointer to lower all gauges uniformly. Depth gauge jointers are available in .020 in. to .035 in. Use a .025 in. depth gauge jointer. After lowering each depth gauge, restore original shape by rounding the front. Be careful not to damage adjoining drive links with the edge of the file. *See Figures 39 - 40.*

Depth gauges must be adjusted with the flat file in the same direction the adjoining cutter was filed with the round file. Use care not to contact cutter face with flat file when adjusting depth gauges.

GUIDE BAR MAINTENANCE

See Figure 41.

When the guide bar shows signs of wear, reverse it on the saw to distribute the wear for maximum bar life. The bar should be cleaned every day of use and checked for wear and damage.

Feathering or burring of the bar rails is a normal process of bar wear. Such faults should be smoothed with a file as soon as they occur.

A bar with any of the following faults should be replaced.

- Wear inside the bar rails which permits the chain to lay over sideways.
- Bent guide bar.
- Cracked or broken rails.
- Spread rails.

In addition, guide bars with a sprocket at their tip must be lubricated weekly with a grease syringe to extend the guide bar life. Using a grease syringe, lubricate weekly in the lubricating hole.

Turn the guide bar and check that the lubrication holes and chain groove are free from impurities.

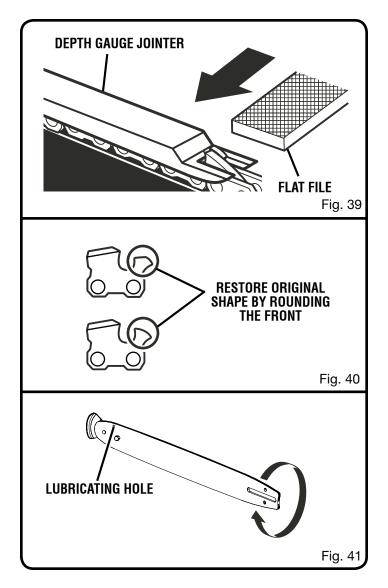
REVERSING THE GUIDE BAR

See Figures 41 - 43.

- Remove the SAFE-T-TIP[®] mounting screw.
- Remove the SAFE-T-TIP[®] from the bar.
- Remove the chain from the bar and turn the bar over.
 NOTE: Bottom of bar should not be on top.
- Replace the chain on the bar. Refer to "Replacing Bar and Chain" earlier in this manual for specific information.
- Replace the SAFE-T-TIP[®] on the bar nose.

NOTE: The locking tab fits in the recessed hole in the bar.

- Tighten the screw with your finger.
- From the finger-tight position, tighten the screw an additional 3/4 of a turn using a wrench.



A WARNING:

Although the guide bar comes with a SAFE-T-TIP[®] antikickback device already installed, you need to check the tightness of the mounting screw before each use.

SAFE-T-TIP® NOSE GUARD MAINTENANCE

See Figures 42 - 43.

Tighten the mounting screw of the nose guard as instructed below. These are specially hardened screws. If the screw cannot be installed tightly, replace both the screw and the SAFE-T-TIP[®] before further operation. Do not replace with an ordinary screw.

In addition to preventing chain contact with solid objects at the nose of the bar, the SAFE-T-TIP[®] also helps keep the chain away from abrasive surfaces such as the ground. Keep it on the right hand side of the bar, where it will be between the chain and the ground during flush with ground cutting.

The mounting screw requires a 5/16 in. wrench (or adjustable wrench) to achieve the recommended tightness of 35 to 45 in. lb. A tightness within this range can be achieved by the following method.

- Tighten the screw with your finger.
- From the finger-tight position, tighten the screw an additional 3/4 of a turn using a wrench.

MOUNTING SAFE-T-TIP® NOSE GUARD

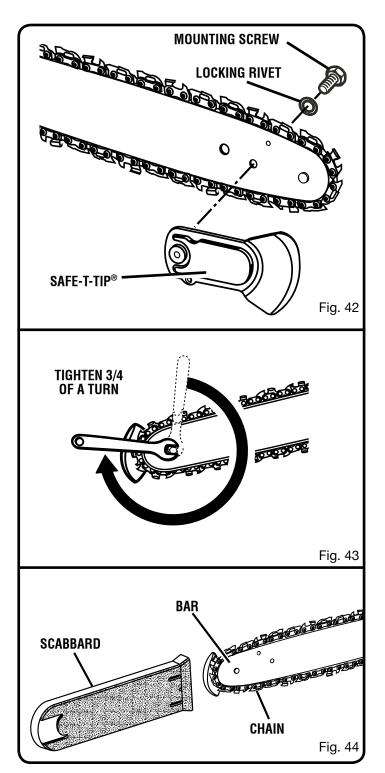
See Figures 42 - 43.

- Mount the SAFE-T-TIP[®] on the bar nose.
 NOTE: The tab fits in the recessed hole in the bar.
- Tighten the screw with your finger.
- From the finger-tight position, tighten the screw an additional 3/4 of a turn using a wrench.

TRANSPORTING AND STORING

See Figure 44.

- Do not store or transport the chain saw when it is running. The chain saw should always be idle before storing or transporting.
- Always place the guide bar scabbard on the bar and chain before storing or transporting the chain saw. Use caution to avoid the sharp teeth of the chain.
- Clean the chain saw thoroughly before storing. Store the chain saw indoors, in a dry place that is locked and/or inaccessible to children.
- Keep away from corrosive agents such as garden chemicals and de-icing salts.

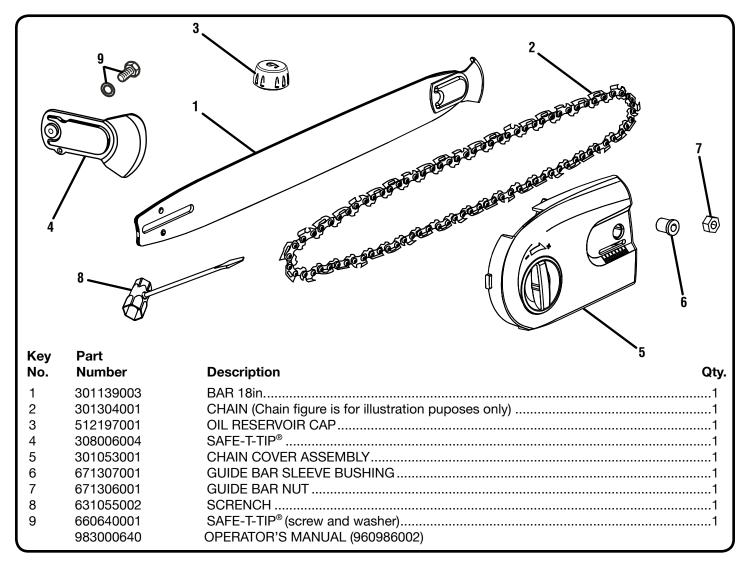


TROUBLESHOOTING

PROBLEM		CAUSE		SOLUTION
Bar and chain running hot and smoking.	1. 2.	Check chain tension for over tight condition Chain oil tank empty.		Tension chain. Refer to "Adjusting Chain Tension" earlier in this manual. Check oil tank.
Motor runs, but chain is not rotating.	1. 2. 3.	Chain tension too tight. Check guide bar and chain assembly. Check guide bar and chain for damage.		Retension chain, Refer to "Adjusting Chain Tension" earlier in this manual. Refer to "Replacing Bar and Chain" earlier in this manual. Inspect guide bar and chain for damage.
Motor runs, chain rotates but does not cut.	1. 2.	Dull Chain. Chain on backwards.	1. 2.	Sharpen Chain. Reverse direction of chain.

IF THESE SOLUTIONS DO NOT SOLVE THE PROBLEM CONTACT YOUR AUTHORIZED SERVICE DEALER.

PARTS LIST



NOTES

OPERATOR'S MANUAL 18 in. ELECTRIC CHAIN SAW DOUBLE INSULATED

RY43006

• SERVICE

Now that you have purchased your tool, should a need ever exist for repair parts or service, simply contact your nearest Ryobi Authorized Service Center. Be sure to provide all pertinent facts when you call or visit. Please call 1-800-860-4050 for your nearest Ryobi Authorized Service Center. You can also check our web site at www.ryobitools.com for a complete list of Authorized Service Centers.

• MODEL NO. AND SERIAL NO.

The model number of this tool will be found on a plate attached to the motor housing. Please record the model number and serial number in the space provided below.

• HOW TO ORDER REPAIR PARTS

When ordering repair parts, always give the following information:

- MODEL NUMBER RY43006
- SERIAL NUMBER

RYOBI TECHNOLOGIES, INC.

1428 Pearman Dairy Road, Anderson, SC 29625 Post Office Box 1207, Anderson, SC 29622-1207 Phone 1-800-860-4050 www.ryobitools.com